Bogus Basin Forest Health Project
Proposed Action Report

USDA Forest Service
Boise National Forest Mountain Home
Ranger District

Project Location

The Bogus Basin Forest Health Project (Project) area is located in Boise County, Idaho, in T 5N, R 3E, Sections 9, 10, 14, 15, 16, 17, 20, 21, 22 and 23, Boise Meridian (Figure 1). All of the land within the proposed project area is located on National Forest System (NFS) land on both the Mountain Home Ranger District (3,520 acres) and the Idaho City Ranger District (204 acres). The project area includes portions of Shafer Creek Watershed, Lower Grimes Watershed, Cottonwood Creek-Shafer Creek Sub-watershed, Clear Creek-Grime Creek Sub-watershed, Mack's Creek-Grimes Creek Watershed, and a small portion of Headwaters Dry Creek Watershed.

Bogus Basin Mountain Recreation Area (Bogus Basin) is located 16.5 miles north of Boise, Idaho, and operates under a special use permit administered by the Boise National Forest (Forest).The 3,724-acre project area includes the Bogus Basin Mountain Resort Permit Area (approximately 2,805 acres) and adjacent lands (919 acres). The project area surrounds a section of private land of approximately 636 acres owned by the Bogus Basin Recreational Association, Inc., which owns and operates Bogus Basin Mountain Resort, a 501c(3) charitable organization, created by the Boise Community in 1942. During the off season, Bogus Basin's facilities and services are not open to the general public except with reservations for special events. Hiking and biking trails within the permit area are open to the general public. Bogus Basin opens for full winter operation from mid-November through mid-April, depending on weather and conditions. The Bogus Basin permit area includes 2,600 acres for day skiing, 165 acres for night skiing, and 53 groomed runs. Other activity areas include Nordic and snowshoe trails, a tubing hill, and terrain parks. The average annual snowfall is 200–250 inches (Bogus Basin Mountain Recreational Association 2015).

The impetus for this project began on March 31, 2014, when Idaho State Governor, C.L. "Butch" Otter submitted a request to the Secretary of Agriculture to designate landscape-scale treatment areas on National Forests within Idaho that are at high risk of insect and disease mortality pursuant to Section 8204 of the 2014 Agricultural Act, known as the Farm Bill. As stated in Governor Otter's letter, "Forest Supervisors and their staffs worked with local collaborative groups, resource committees or other local governments and citizens to select the boundaries of proposed landscape areas." On May 20, 2014, the Chief of the Forest Service, Thomas L. Tidwell, who was delegated authority to designate landscape-scale insect and disease areas under Section 602 of the Healthy Forest Restoration Act (HFRA), as added by section 8204 of the 2014 Farm Bill, sent a letter to Governor Otter designating landscape areas requested in Idaho.

The Project area falls within one of the 50 designated landscape areas at high risk of insect and disease mortality. As identified by Governor Otter in his March 31, 2014,

letter, the Robie-Clear Creek Landscape was delineated in collaboration with local individuals, groups, and local governments, including the Boise Forest Coalition. Figure 2 displays the insect and disease risk rating for the Project area based on the state-level assessment used for the Section 602 designation request. Krist et al. (2014) defined the threshold for mapping insect and disease risk as the "expectation that, without remediation, at least 25% of standing live basal area greater than 1.0 inch in diameter will die over a 15-year time frame (2013 to 2027) due to insects and disease." This rating is based on the concept of the potential for mortality (susceptibility or vulnerability) rather than a probability of an area being attacked by a single or combination of agents. Krist et al. (2014) deemed a basal area mortality rate of ≥25% (over a 15-year timeframe) to be extraordinarily high when compared to an average background rate of 0.89% per year. The risk of mortality from most insect and disease agents is generally greatest where stand density is high.

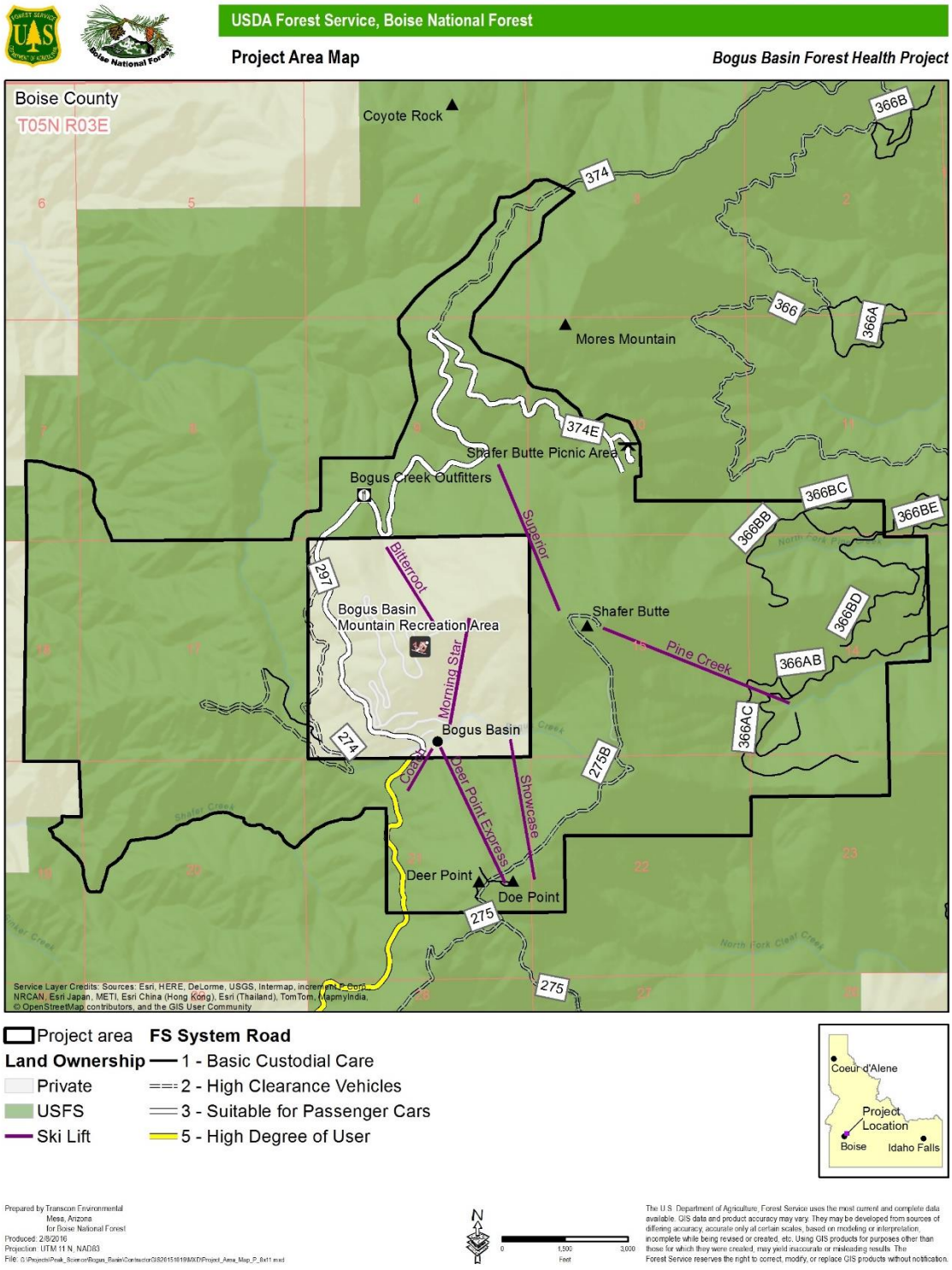

Figure 1. Bogus Basin Forest Health Project area map

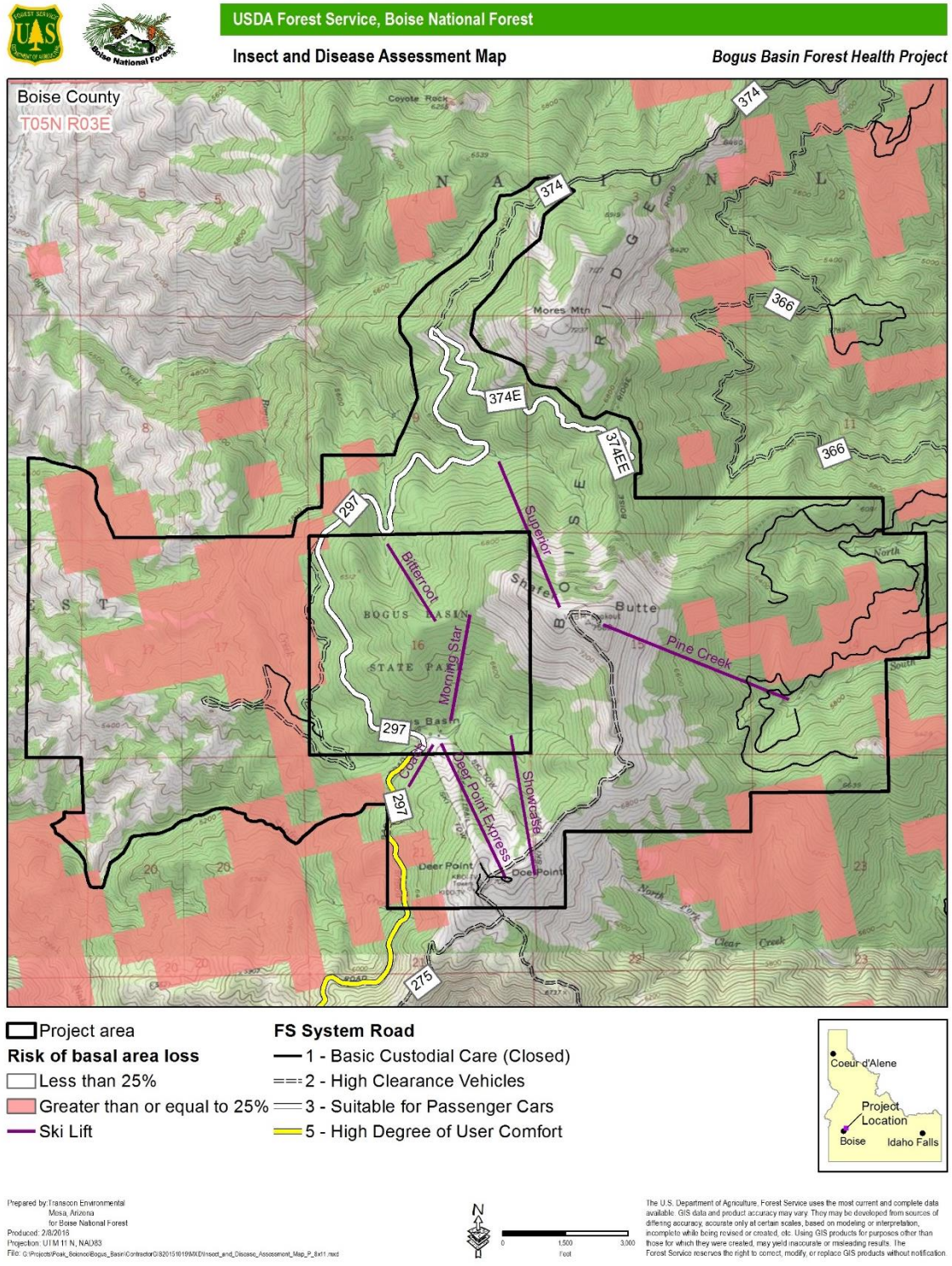

Figure 2. Bogus Basin Forest Health Project area overlap with National Insect and Disease Assessment for Potential Basal Area Loss due to Insect and Disease Disturbance

Relationship of this Project to the Forest Plan

In 2003, the Forest issued a revised Land and Resource Management Plan (Forest Plan) (USDA Forest Service 2003). On July 1, 2010, Forest Supervisor, Cecilia R. Seesholtz, issued an amendment to the 2003 Forest Plan to integrate a wildlife conservation strategy (WCS) for the forested biological community (USDA Forest Service 2010a). This Forest Plan WCS complements the *Idaho Comprehensive Wildlife Conservation Strategy* (Idaho CWCS) (IDFG 2005) by building on the broad-scale conservation needs identified in the Idaho CWCS for the Forest area.

The vegetation management strategy of the Forest Plan calls for managing within desired conditions that fall into the historical range of variability (HRV) using a combination of passive and active management (USDA Forest Service 2010b, p. 6). The strategy is based on the assumption that conditions within the range of the HRV will promote a functional landscape that is resilient to uncharacteristic disturbance events, such as insect outbreaks, while providing a network of habitats to support the diverse array of native and nonnative vertebrate wildlife species.

An underlying philosophy of the 2010 Forest Plan and the WCS is that restoring desired conditions to within the HRV and emulating natural disturbance processes where they are not operating as desired, within individual forested stands and across landscapes, will contribute to landscape resiliency and species conservation and recovery (Noss 1987; Hunter et al. 1988; Haufler et al. 1996; Raphael et al. 2000; Wisdom et al. 2000; McComb and Duncan 2007; USDA Forest Service 2010b).

As identified in Forest Plan Standard VEST02, "Vegetation management actions associated with developed recreation shall be designed to meet recreation objectives, not vegetative desired conditions described in Appendix A" (USDA Forest Service 2010a). Thus, while the overall intent of treatments within the Project area, which encompasses all of the Bogus Basis permit area, are similar to those described in Appendix A of the Forest Plan (USDA Forest Service 2010a), the recreation purpose in this developed area may require deviating from those conditions. Consistent with Appendix A desired conditions, developing a landscape more resilient to uncharacteristic disturbance events, such as insect and disease outbreaks, while providing for vegetative conditions that will support a diverse array of vertebrate wildlife species is desirable within this permit area. However, managing vegetation conditions and the timeline to achieve those conditions, will primarily be driven by needs surrounding recreation facilities, such as maintaining the visual quality of the landscape to support the recreational experiences desired, providing the necessary tree cover surrounding Nordic and downhill ski runs important to retaining snow cover, and eliminating identified hazard trees representing unacceptable risks to public health and safety around recreation facilities, including trails.

Forest-wide Direction

Several Forest-wide goals, objectives, and standards are pertinent to the development of the purpose and need for this project, including those identified in Table 1.

Management Area–specific Direction

The Project is located within Management Area (MA) 4, Boise Front/Bogus Basin. All of the Project area is classified as Management Prescription Category (MPC) 5.1, "Restoration and Maintenance Emphasis within Forested Landscapes". MA 4 includes several objectives pertinent to developing the purpose and need for this project, including those identified in Table 2 and Table 3.

Table 1. Forest-wide direction pertinent to developing the purpose and need for this Project

Direction	Forest-wide Direction Description
VEGO03	Vegetation conditions reduce the frequency, extent, severity, and intensity of uncharacteristic or undesirable disturbances from wildfire, insects, and pathogens.
REGO02	Plan and manage the recreation program and recreation resources to meet established standards (e.g., Meaningful Measures) to provide for health and cleanliness, safety and security, facility conditions, responsiveness to customers, environmental setting, and permit administration.
SCGO01	Manage the Forest's scenic resources to maintain the recreation and visual resource values, while meeting other resource needs.
VEOB04	Enhance public awareness about vegetation diversity through interpretive and education programs that address species, communities, ecosystems and their processes.
REOB14	Identify developed recreation sites with priority vegetation management needs, and develop comprehensive vegetation management plans to address those needs.
VEST02	Vegetation management actions associated with developed recreation shall be designed to meet recreation objectives, not vegetative desired conditions described in Appendix A (USDA Forest Service 2010a).
VEST03	Retain forest stands that meet the definition of a large tree size class (USDA Forest Service, Appendix A, page A-6) until forest-wide inventories demonstrate the desired quantity of large tree size class acres within the affected PVG exist across the Forest (USDA Forest Service, Appendix A, Table A-4). Management actions are permitted in such stands as long as they will continue to meet the definition of a large tree size class.[a]
SCST01	All projects shall be designed to meet the adopted Visual Quality Objectives (VQOs) as identified in Management Area direction and represented on the Forest VQO map.
REGU08	All projects and activities should maintain or enhance the adopted Recreation Opportunity Spectrum (ROS) classes as displayed on the Forest ROS strategy maps.
REGU25	Winter recreation opportunities should be managed to provide for user safety and to minimize user conflicts. Winter recreation management should recognize that some activities are not compatible in the same locations and should be separated when needed to maintain user safety and quality of recreation experiences.
SCGU02	Duration of visual impacts from ground disturbing and vegetation removal activities to allow for herbaceous vegetation recovery of ground cover may extend to 3 years in fgR, fgPR, mgR, and mgPR. Consider timely initiation of reseeding in areas where natural recovery is questionable.
SCGU03	To meet fgR, visibility of stumps should be mitigated. There should be a general lack of visible ground disturbance.
SCGU04	Slash and harvest residues remaining after project completion should appear to be naturally occurring downed material in fgR and mostly naturally occurring downed material in fgPR. Techniques to mitigate visibility of slash include lopping to low heights, burning, physically removing material in excess to other resource needs, and dispersing concentrations.
SCGU05	Most timber changes in mgR should be textural, with some small, simulated natural openings where openings already occur, or a limited number of small natural-appearing openings that are developed normally over two or more harvest entries.
SCGU06	Ridgeline silhouettes in mgR, mgPR, and bgR should not have unnatural-appearing breaks along them.

[a] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with. This standard does not apply to PVG 10.

Table 2. Management Area 4 direction pertinent to developing the purpose and need for the Bogus Basin Forest Health Project

Direction	Management Area Direction Description
MPC 5.1 Vegetation Standard 0465	For commercial salvage sales, retain the maximum number of snags depicted in Table A-6 (USDA Forest Service 2010a, Appendix A) within each size class where available. Where large snags (>20 inches diameter at breast height) are unavailable, retain additional snags ≥10 inches diameter at breast height where available to meet the maximum total number snags per acre depicted in Table A-6[a].
MPC 5.1 Vegetation Guideline 0406	The full range of vegetation treatment activities may be used to restore or maintain desired vegetation and fuel conditions. Salvage harvest may also occur.
MPC 5.1 Road Guideline 0408	Road construction or reconstruction may occur where needed: a) To provide access related to reserved or outstanding rights, or b) To respond to statute or treaty, or c) To achieve restoration and maintenance objectives for vegetation, water quality, aquatic habitat, or terrestrial habitat; or d) To support management actions taken to reduce wildfire risks in wildland-urban interface areas; or e) To meet access and travel management objectives.
MPC 5.1 Road Guideline 0467	On new permanent or temporary roads built to implement vegetation management activities, public motorized use should be restricted during activity implementation to minimize disturbance to wildlife habitat and associated species of concern. Effective closures should be provided in project design. When activities are completed, temporary roads should be reclaimed or decommissioned and permanent roads should be put into Level 1 maintenance status unless needed to meet transportation management objectives.
Recreation Resource Objective 0428	Coordinate with the Bogus Basin Mountain Resort on implementing their master development plan.
Recreation Resource Objective 0432	Coordinate with Ridge to River trail organization to implement trail improvements.
Recreation Resource Objective 0440	Continue to authorize a range of appropriate activities at Bogus Basin Mountain Resort as allowed by the recreation special use permit.
Timberland Resource Objective 0446	Reduce the opportunity for noxious weed establishment and spread by keeping suitable weed sites to a minimum during timber harvest activities in the Voquelin-Deer, Robie Creek, Dagger Creek, Pine Creek, Clear Creek, Macks Creek, and Shafer Creek subwatersheds. Consider such methods as designated skid trails, winter skidding, minimal fireline construction, broadcast burning rather than pile burning, or keeping slash piles small to reduce heat transfer to the soil.
Timberland Resource Guideline 0447	Vegetation management projects should be designed and implemented to minimize the spread and intensification of dwarf mistletoe in Douglas-fir (*Pseudotsuga menziesii*) and ponderosa pine (*Pinus ponderosa*).
Facilities and Roads Objective 0459	Evaluate and incorporate methods to help prevent weed establishment and spread from road management activities in the Voquelin-Deer, Shafer Creek, and Macks Creek subwatersheds. Methods to consider include: • When decommissioning roads, treat weeds before roads are made impassable. • Schedule road maintenance activities when weeds are least likely to be viable or spread. Blade from least to most infested sites. • Consult or coordinate with the district noxious weed coordinator when scheduling road maintenance activities. • Periodically inspect road systems and rights of way. • Avoid accessing water for dust abatement through weed-infested sites, or utilize mitigation to minimize weed seed transport.
Scenic Environment Standard 0461	Meet the visual quality objectives as represented on the Forest VQO Map, and where indicated in the table below as viewed from the following areas/corridors:

Table 3. Visual Quality Objective direction for Management Area 4 pertinent to developing the purpose and need for the Bogus Basin Forest Health Project

Sensitive Travel Route or Use Area	Sensitivity Level	Visual Quality Objective								
		Fg			Mg			Bg		
		Variety Class			Variety Class			Variety Class		
		A	B	C	A	B	C	A	B	C
Bogus Basin Mountain Resort	1	R	R	PR	R	PR	PR	R	PR	M
Forest Road 297	1	R	R	PR	R	PR	PR	R	PR	M
Shafer Butte Recreation site	1	R	R	PR	R	PR	PR	R	PR	M
Forest Road 374	2	PR	PR	M	PR	M	M	PR	M	MM
Bogus Basin Nordic Trail	1	R	R	PR	R	PR	PR	R	PR	M

Note: Fg = Foreground, Mg = Middlegound, Bg = Background, R = Retention, PR = Partial Retention, M = Modification

[a.] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

Relationship of this Project to the 2014 Farm Bill

The Project purpose and need has been specifically developed to be consistent with Section 8204 of the Agriculture Act of 2014 (Public Law 113-79) amended Title VI of the HFRA (16 U.S.C. 6591 et seq.) to add Sections 602 and 603.

Section 603 establishes a categorical exclusion for qualifying insect and disease projects in designated areas on NFS lands. An insect and disease project that may be categorically excluded under this authority is a project that is designed to reduce the risk or extent of, or increase the resilience to, insect or disease infestation (HFRA, Sections 602(d) and 603(a)). This categorical exclusion may be used to carry out an insect and disease project in an insect and disease treatment area designated by the Secretary under Section 602. Landscape-scale areas may be designated by the Secretary if they meet at least one of the criteria found in HFRA, Sections 602(c)(1)(2) & (3).

Consistent with this authority, the Project meets the following criteria:

- Falls within a landscape in Condition Classes 2 or 3 in Fire Regime Groups I, II, or III, outside the wildland urban interface (HFRA, Sections 603(c)(2)(A) & (B))
- Is not a component of the National Wilderness System (Figure 4; HFRA, Section 603(d)(1))
- Does not include any federal land on which, by Act of Congress or Presidential proclamation, the removal of vegetation is restricted or prohibited (HFRA, Section 603(d)(2))
- Does not fall within a congressionally designated Wilderness Study Area (Figure 4; HFRA, Section 603(d)(3))
- Falls within an area in which activities designed to address the needs would be consistent with the Forest Plan (HFRA, Section 603(d)(4))
- Is consistent with all applicable standards and guidelines in the Forest Plan

The Bogus Basin Forest Health Project will carry out a forest restoration treatment that (HFRA, Sections 603(b)(1)(A–C)) does the following:

- Maximizes the retention of old growth and large trees, as appropriate for the forest type, to the extent that the trees promote stands that are resilient to insects and disease;
- Considers the best available scientific information to maintain or restore the ecological integrity, including maintaining or restoring structure, function, composition, and connectivity
- Was/is developed and implemented through a collaborative process that
  - includes multiple interested persons representing diverse interests; and
  - is transparent and nonexclusive; or
  - meets the requirements for a resource advisory committee under subsections (c) through (f) of section 205 of the Secure Rural Schools and Community Self-Determination Act of 2000 (16 USC 7125).

Total Project acres to be treated to address insect, disease, and hazard tree concerns will not exceed 3,000 acres (HFRA, Section 603(c)(1)).

The Project includes the following limitations related to roads (HFRA, Section 603(c)(3)):

- Does not include the establishment of permanent roads
- May carry out necessary maintenance and repairs on existing permanent roads for purposes of this section
- Shall decommission any temporary road constructed under a project under this section not later than 3 years after the date on which the project is completed

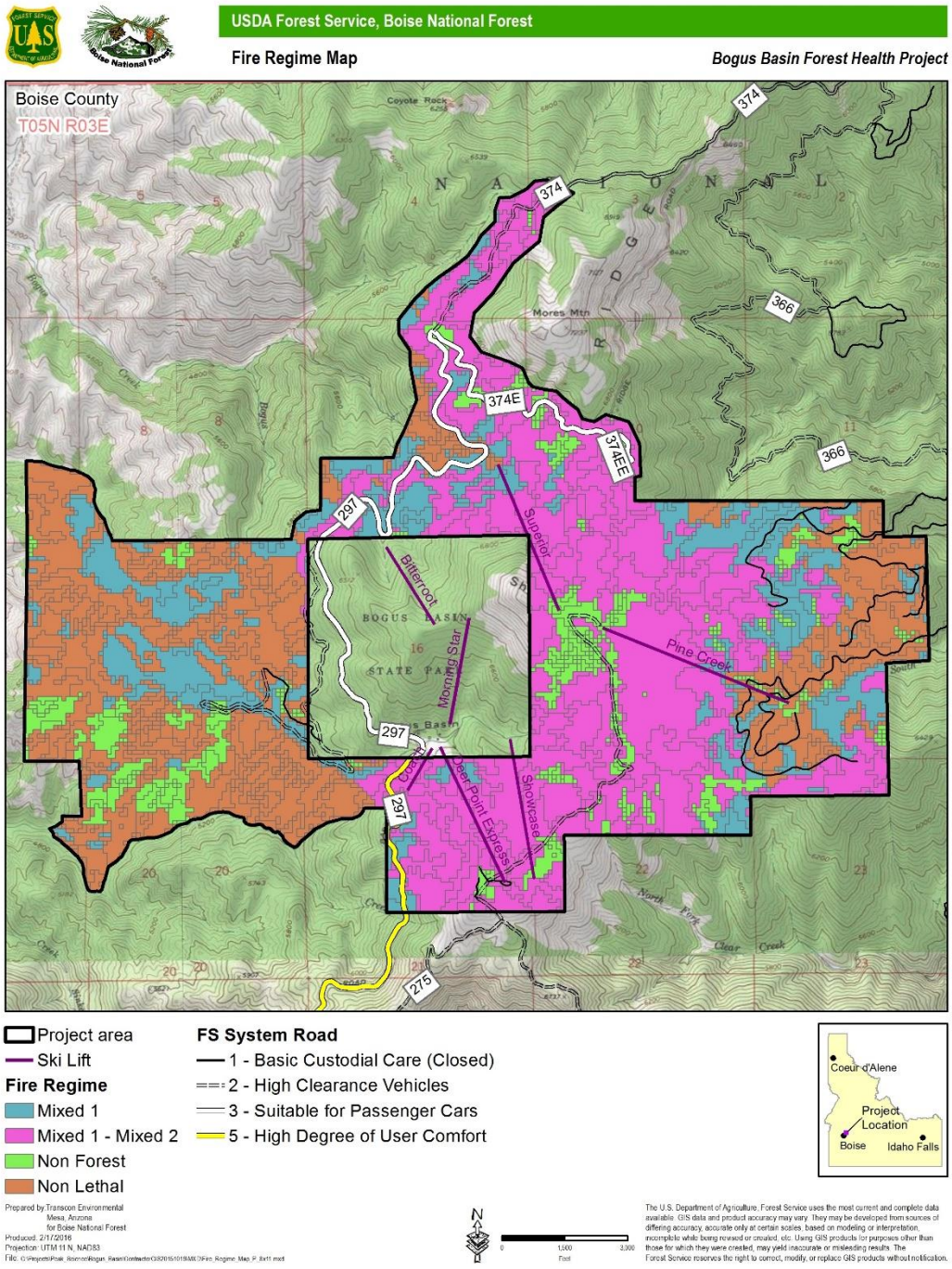

Figure 3. Bogus Basin Forest Health Project fire regime map

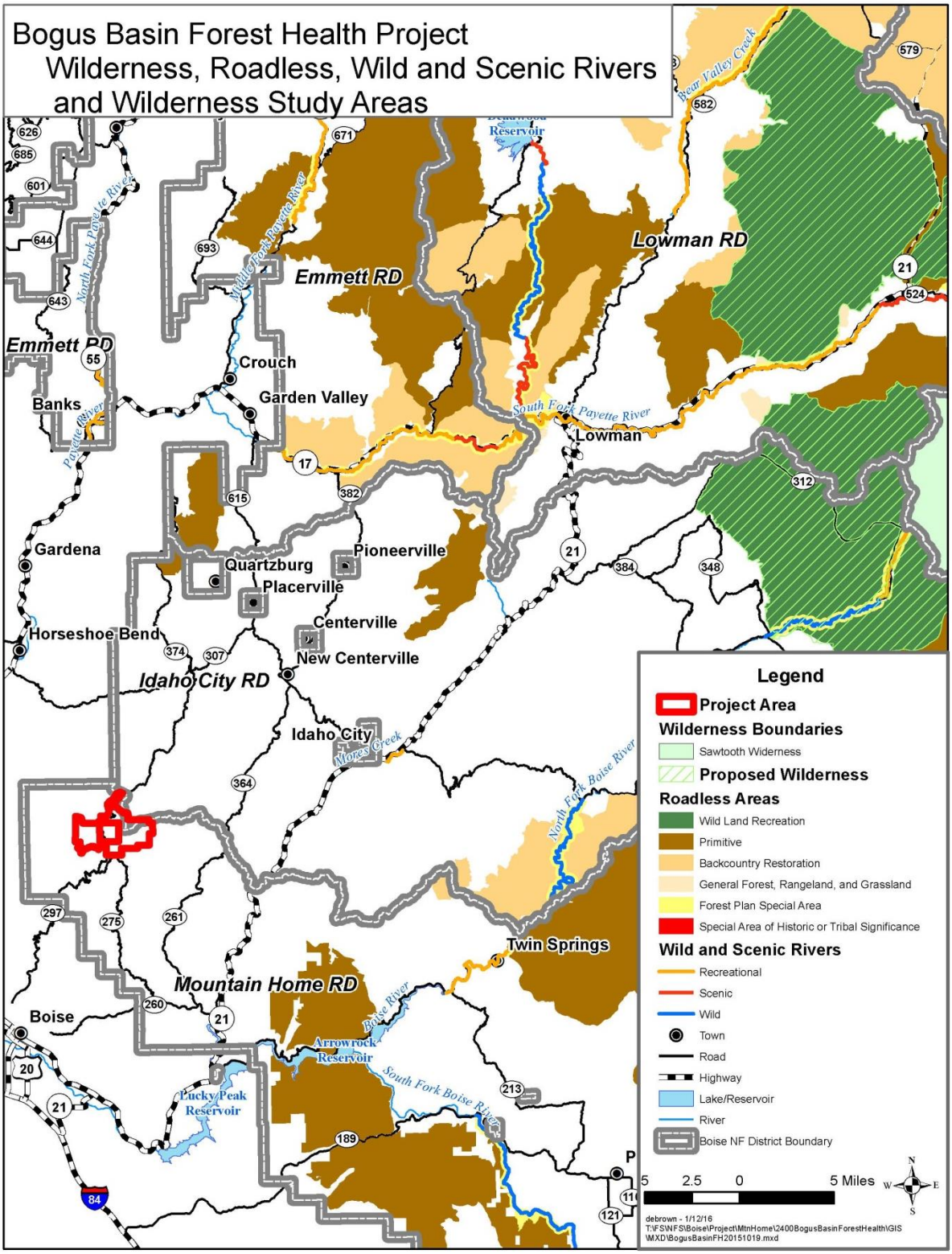

Figure 4. Bogus Basin Forest Health Project in relation to Wilderness Areas, Inventoried Roadless Areas, Wild and Scenic Rivers, and Wilderness Study Areas

Project Purpose and Need

Purpose

The purpose of the Project is to address public safety concerns within a developed recreation site and improve forest resiliency to uncharacteristic insect, disease, and wildfire disturbance by managing stand structure and species composition that will contribute to achieving Forest Plan (USDA Forest Service 2010a) desired conditions.

This purpose is derived from the difference between the current and desired conditions.

Current Condition

Elevations in the Project area range from 4,320 feet in the northeast corner to 7,528 feet at the top of Shafer Butte. All aspects are represented and slopes range from 15% to over 70%. Two-thirds of the Project area are forested while one-third consists of grass or shrub communities. The remaining approximately 1% is classified as developed and includes ski area facilities and communication sites.

The Project area consists of Potential Vegetation Groups (PVGs) 2, 3, and 4 with a few stands of PVG 1 (Table 4). Douglas-fir dwarf mistletoe (*Arceuthobium douglasii*) is present throughout the project area with moderate-to-severe infection rates. The highest infection rates are found in PVG 3 and 4 stands between 5,800 feet and 7,000 feet elevation.

Table 4. Summary of Potential Vegetation Groups (PVGs) in the Bogus Basin Forest Health Project area

PVG	Type	Number of Stands	Acres	Percent of Total Acres
1	Dry ponderosa pine/ Xeric Douglas-fir	3	89	2.4
2	Warm, dry Douglas-fir/Moist ponderosa pine	52	1974	53.1
3	Cool, moist Douglas-fir	10	390	10.5
4	Cool, dry Douglas-fir	30	1042	28.0
Not Classified (grass or shrub climax community)			229	6
Total		**112**	**3,724**	**100**

In 2007, personnel from Forest Health Protection (FHP), reported Douglas-fir dwarf mistletoe infection in almost 80% of all stands within the Project area, and the majority of those stands were infected at the highest Hawksworth rating class of 6 (FHP unpublished report, available in the project record). Although the stands in the project area have been evaluated several times since 1982 by Forest Health specialists, FHP noted that the age and size class composition of the stands have "changed perceptively in the past 25 years" (FHP unpublished report, available in the project record). They observed extensive

mortality of old large Douglas-fir due to dwarf mistletoe infection, Douglas-fir beetle (*Dendroctonus pseudotsugae*), and drought and "many of these stands have progressed through all stages of forest succession to a climax condition of old, decadent trees with very little conifer regeneration".

Due to ongoing incidence of tree mortality, numerous large, standing dead trees are present in the Bogus Basin developed recreation area. These standing dead trees present a safety hazard to recreational facilities (e.g., chair-lift cables and towers) and the public on hiking and mountain biking trails, alpine and Nordic ski trails, and motorized roads.

Lodgepole pine (*Pinus contorta*), subalpine fir (*Abies lasiocarpa*), and Engelmann spruce (*Picea engelmannii*) are not present in the project area. Though whitebark pine (*Pinus albicaulis*) habitat occurs, no known trees exist in the Project area. Aspen (*Populus tremuloides*) is found in small clones on wetter sites within all PVGs below 6,500 feet. In general, aspen is low growing and mixed with numerous shrubs. Many patches of dense, tall shrubs exist in the Douglas-fir stands where overstory trees have died and shrub species have inhibited establishment of younger trees.

Desired Condition

The desired vegetation condition within PVGs 1 and 2 in the Project area is for stands to be dominated by multi-aged ponderosa pine (80%–90% of the trees based on number of trees per acre). Trees would be distributed in non-overlapping clumps, interspersed with widely spaced individual trees and small openings. Douglas-fir would comprise <10% of the trees and would be found on the wetter microsites. In PVG 3, in the short term, ponderosa pine would comprise 50%–70% of the trees, which differs from the Forest Plan desired condition for PVG 3 because of the high dwarf mistletoe infection rates in Douglas-fir. Aspen would be present, mostly on wetter micro-sites in PVGs 1 and 2 and more widely spread in PVG 3. Aspen clones would be of various ages and sizes, mostly free of conifers and actively sprouting. Most ponderosa pine and Douglas-fir trees would not have dwarf mistletoe and the few infected trees would occur in widely spaced clumps and have lower than moderate average infection rates (Hawksworth rating of less than 3). In PVGs 1 and 2, surface fuels would be light and consist of smaller branches (<3 inches in diameter), leaf litter, and shrubs and forbs. Dense accumulations of heavier fuels (≥3 inches diameter) would be few and well dispersed. Average crown base heights would be relatively high. Young trees with low crowns would be separate from overstory trees and numerous gaps would exist in the canopy, which would interrupt crown-to-crown fire spread. Medium-to-large snags would be present in areas where they would not pose a hazard to the public or facilities (e.g., interior areas away from roads and ski trails).

The desired vegetation condition for PVG 4 stands would be multi-aged Douglas-fir distributed in relatively even-aged patches interspersed with small openings. Ponderosa pine would be present in clumps at lower elevations and on southerly aspects. Surface fuels would be very light (dominated by fuel <3 inches in diameter) with widely dispersed dense accumulations of larger fuels (≥3 inches in diameter). Seedling and sapling-size Douglas-fir would be present in small openings in the overstory. Medium-to-large snags would be present in areas where they would not pose a hazard to the public or facilities (e.g., locations away from roads and trails).

The desired condition for the Project area would be a healthy forest that facilitates and enhances the recreational experience. Large, healthy conifers would contribute to an improved scenic experience; a desirable sense of place; and the functional value of shade, which would provide relief from the sun in the summer for recreationists and limit snow melt in the winter for skiers. In addition, high forest cover between ski runs within a developed ski area would help maintain snow cover and enhance the skier experience. Large, healthy conifers would also provide more opportunities for wildlife viewing in a natural setting. Additionally, a healthy forest would limit the potential for falling trees and wildfires directly impacting individuals or facilities.

The desired vegetation conditions would produce a forested landscape in PVGs 1, 2, 3, and 4 important to the recreational experience by addressing the current insect and disease infestation in the forested areas and producing a forested landscape resilient to this insect and disease cycle, while simultaneously maintaining the visual quality of the landscape and eliminating hazard trees presenting public health and safety risks around recreation facilities, including ski runs and trails. Additionally, by interrupting potential crown-to-crown fire spread, these vegetation conditions would ensure a forested landscape be maintained in the event of a wildfire. A forested landscape is important to the recreational experience because it enhances recreational aspects, such as enhancing the aesthetic experience of skiing through a forest, providing for snow capture and retention on ski runs and Nordic trails, and supporting a diversity of wildlife.

Need

Based on the differences between the existing and desired condition, the following needs were identified for the Project.

A need exists to reduce the threat to public safety caused by hazard trees adjacent to trails and facilities within a permitted recreation area

The number of trees killed by Douglas-fir dwarf mistletoe, Douglas-fir beetle, and western pine beetle (*Dendroctonus brevicomis*) has increased in recent years, creating numerous hazard trees (i.e., a tree posing a risk of failing and striking a human or structural target due to the tree's structural defects) in a heavily used summer and winter recreation area. As shown in Figure 5, infected trees within the project area have dwarf mistletoe Hawksworth ratings of 5 or 6 (out of a range of 0–6) and are showing signs of decline, such as dead and dying tops and fading crowns. Douglas-fir beetle and western pine beetle have been actively killing trees within and around the Bogus Basin permit area for many years. Though Mountain Home District fire crews have felled hazard trees in the past, the recent increases in dwarf mistletoe and bark beetle mortality have dramatically increased the number of hazard trees beyond the capabilities of the crews. Furthermore, these felling activities have led to localized heavy slash buildups, which are inhibiting natural regeneration and increasing fuel loads.

Figure 5. Dwarf mistletoe infected Douglas-fir adjacent to National Forest System road 374, a groomed Nordic trail with heavy use

A need exists to reduce dwarf-mistletoe infection of Douglas-fir trees and to disrupt the disease cycle while maintaining a healthy forest cover by promoting alternative species such as lodgepole pine, ponderosa pine, or aspen

In 2007, FHP recommended planting non-host species in Douglas-fir stands to interrupt the infection cycle. In November 2014, FHP visited the Bogus Basin permit area and reported seeing numerous trees with moderate-to-severe dwarf mistletoe infections and recommended that a vegetation management plan be prepared for the area.

In June 2015, FHP observed numerous patches of trees killed by Douglas-fir beetle. Douglas-fir beetle tends to be attracted to the largest and most stressed trees in a stand first, but as the beetle population increases, Douglas-fir trees 11 inches or greater are at risk of attack (field notes from May 27 and June 4, 2015, available in the project record). Several of the patches of recently killed Douglas-fir contained more than 50 trees, which is much higher than normal. Due to reduced tree vigor, dwarf mistletoe–infected trees are more susceptible to Douglas-fir beetle attacks. Recent years of drought and higher than normal spring and early summer temperatures have also contributed to the increase in beetle-caused mortality.

Dwarf mistletoe spreads by wind-dispersed seeds, generally from larger trees to smaller trees or from upslope/ridge tops to trees lower on the slope. Without disturbance to interrupt the infection cycle, the disease will spread throughout the canopy and bole of infected trees and eventually to most, if not all, trees of the same species in the area.

Since the species of dwarf mistletoe that infects Douglas-fir does not infect ponderosa pine or lodgepole pine, one way to interrupt the cycle is to plant or favor (if present) these non-host species in the treatments.

A need exists to increase forest resilience to uncharacteristic insect, disease, and wildfire disturbance by decreasing stand densities, promoting early seral species (e.g., ponderosa pine and aspen), and reducing ladder and crown fuels within the wildland-urban interface in nonlethal and mixed1 fire regimes[1]

In the ponderosa pine stands at the lower elevations, western pine beetle has been actively killing individual and small clumps of pine trees for several years. Western pine beetle can have 2 or 3 life cycles per year. During the first flight in May, adult beetles tend to find stressed trees to attack. The next generation of beetles emerge in early summer and attack the nearest trees. Ponderosa pine is more susceptible to pine beetles if they are under stress from growing in dense stands or infected by western dwarf-mistletoe (*Arceuthobium campylopodum*). Though not as severe as in Douglas-fir, many ponderosa pine trees in the project area are infected with dwarf mistletoe. However, the primary concern in the ponderosa pine stands is dense stand conditions with high fuel loads. Large areas of dead trees are generally perceived negatively by recreationists and present a safety hazard with increased potential for falling trees and wildfire.

Most of the ponderosa pine stands on the west side of the project area were treated under the Boise Ridge TSI project. Between 2010 and 2014, trees up to 10 inches diameter at breast height (DBH) were cut, piled, and burned to reduce Douglas-fir and promote pine, reduce stand densities, and reduce ladder fuels. However, many of these stands remain at high densities comprised of trees >10 inches DBH.

A fire originating in the lower elevation pine stands and rapidly spreading to higher elevations poses the highest risk of wildfire and public safety in the project area.

Proposed Action

The following management activities are proposed to meet the purpose and needs of the Bogus Basin Forest Heath Project (Table 5, Figure 6, and Figure 7):

- Sanitation salvage and commercial/noncommercial thinning on 775 acres in Douglas-fir dominated stands
- Commercial/noncommercial thinning with limited salvage on 809 acres in ponderosa pine stands
- Hazard tree felling with optional removal on 725 acres
- Fuel abatement activities in conjunction with vegetation treatments on approximately 2,828 acres
- Fill-in planting of ponderosa pine, Douglas-fir, and/or lodgepole pine on approximately 496 acres
- Construction of approximately 4.7 miles of temporary road to facilitate vegetation treatments

[1] Fire regimes are described in the Forest Plan (USDA Forest Service 2010a, Appendix A).

- Road maintenance activities on approximately 5.3 miles of existing nonsystem ski area maintenance roads which will be used to facilitate commercial timber harvest. Road maintenance activities include, but are not limited to, road prism blading, spot aggregate placement, drainage improvements, roadway clearing, and roadway ditch/culvert inlet cleaning.
- Road maintenance activities on approximately 23.0 miles of Forest Service system roads to facilitate log hauling (actual miles will depend on haul routes used).

The Proposed Action includes approximately 175 acres of commercial wood removal within Riparian Conservation Areas (RCAs).

Approximately 900 acres of the total project area would not be treated due to operational constraints, conservation of old forest habitat, sensitive areas (e.g., riparian habitat), and/or lack of need.

Table 5. Bogus Basin Forest Health Project proposed activities

Treatment	Units
Vegetation Treatments	
Hazard tree felling (acres)	725
Sanitation, salvage, and commercial/noncommercial thinning in Douglas-fir stands (acres)	775
Commercial/noncommercial thinning in ponderosa pine stands (acres)	809
Total (acres)	**2,309**
Fuels Treatments of Vegetation Treatment Areas	
Pile and burn slash concentrations (acres)	799
Understory prescribed burning (acres)	1,781
Jackpot burning	248
Total (acres)	2,828
Tree Planting of Vegetation Treatment Areas	
Tree planting (acres)	496
Temporary Road Construction	
Temporary road construction on existing road prisms (miles) (will be obliterated after use)	1.5
Temporary road construction on existing road prisms (miles) (will be restored to a nonmotorized trail after use)	1.0
New temporary road construction (miles)	2.2
Total (miles)	**4.7**
Planning Activities	
Installation of public education signs	5–10, as needed

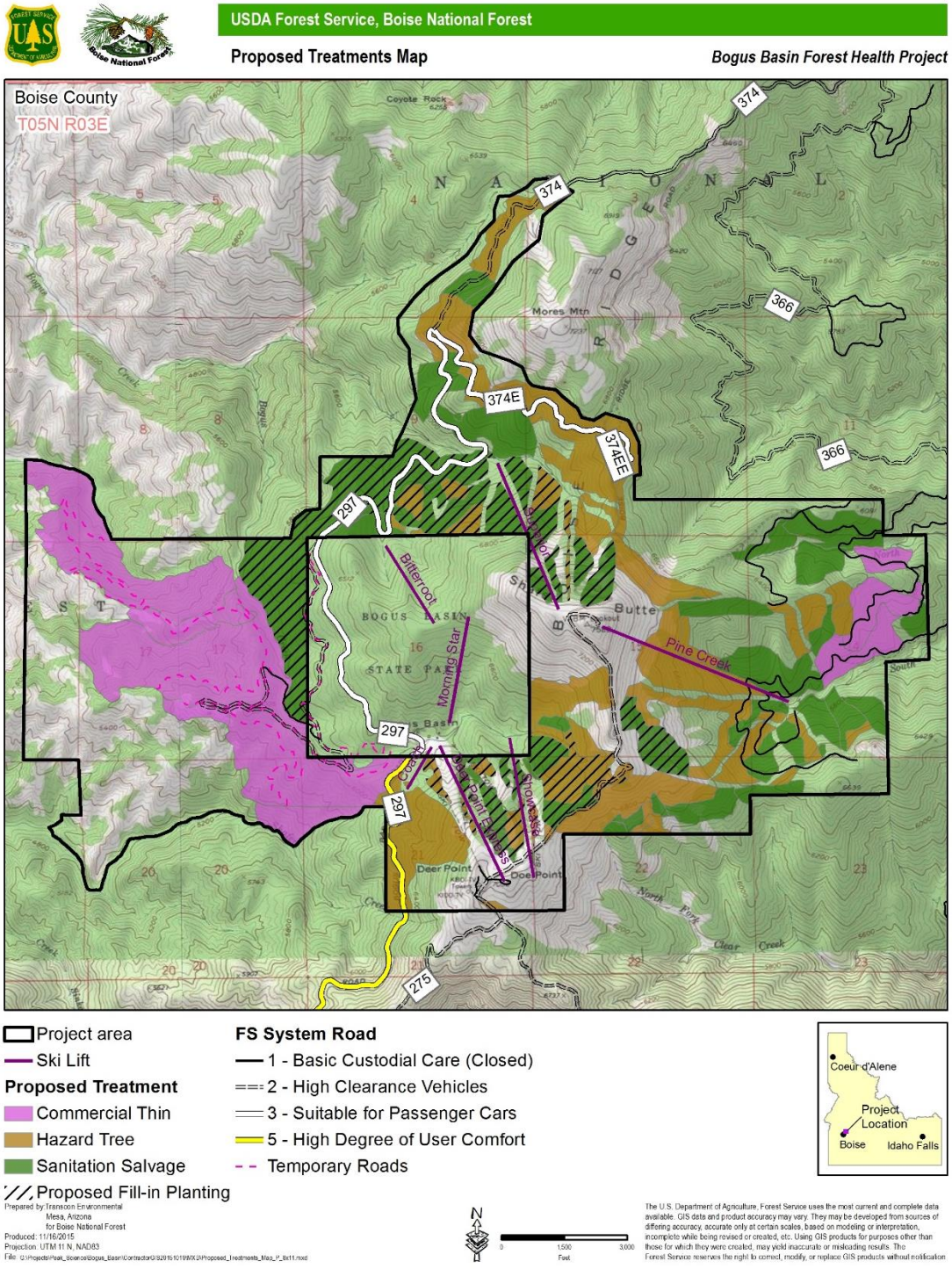

Figure 6. Bogus Basin Forest Health proposed treatment activities map

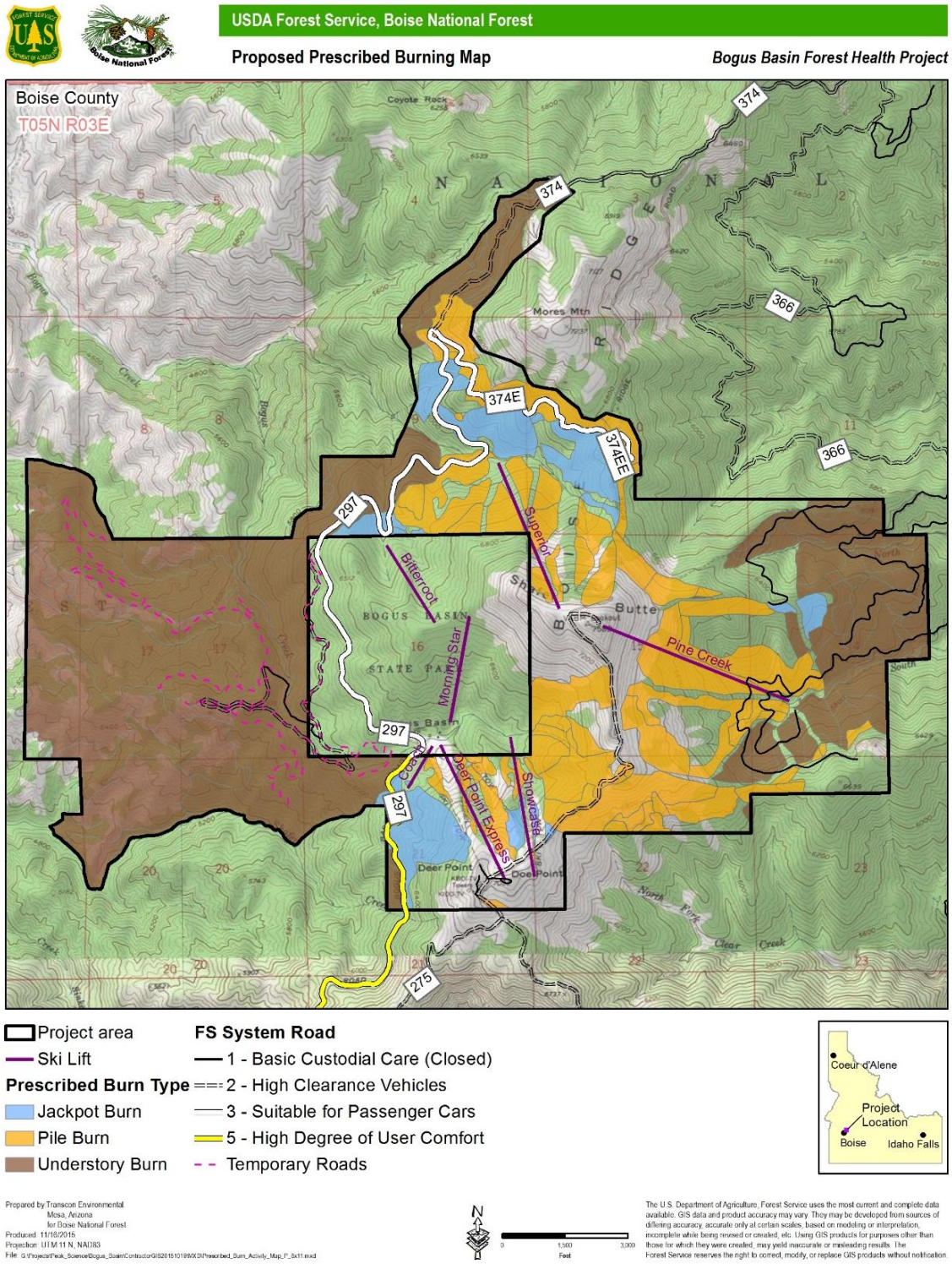

Figure 7. Bogus Basin Forest Health proposed prescribed burn activities

Hazard Tree Felling with Optional Removal

Hazard trees would be felled in low density stands or areas that are inaccessible to harvesting equipment on approximately 725 acres. All hazard or potential hazard trees near roads, structures, facilities, ski runs, and groomed Nordic trails would be felled. Slash <6 inches in diameter would be piled and burned and the logs would be left on the ground. Some logs near existing roads may be harvested if accessible by equipment or firewood cutters. Otherwise, felled snags and logs would remain onsite to provide coarse woody debris. These proposed activities could occur within RCAs as described below.

Sanitation Salvage and Commercial/Non-Commercial Thinning of Douglas-fir Dominated Stands

The Forest Service proposes sanitation salvage and commercial/non-commercial thinning on 775 acres in stands primarily composed of Douglas-fir. These treatments would remove all dead hazard trees and most of the moderate-to-severe dwarf mistletoe–infected trees and thin remaining areas. Where present, ponderosa pine would be promoted over Douglas-fir, even at the higher elevations. In some areas, dwarf mistletoe–infected trees would be removed in stages to maintain tree cover between ski runs. The most severely infected trees would be removed during the first entry. Future entries could occur in 5–10 years as needed to remove additional infected trees.

Commercial/Non-Commercial Thinning with Limited Sanitation Salvage in Ponderosa Pine Dominated Stands

The Forest Service proposes commercial and non-commercial thinning on approximately 809 acres with limited sanitation salvage in stands primarily composed of ponderosa pine. In general, thinning would promote development of medium to large size class ponderosa pine with a clumpy distribution. Douglas-fir, smaller ponderosa pine, and trees serving as ladder fuels would be removed. Trees infected with dwarf mistletoe and/or trees with recent bark beetle infestations would be prioritized for removal. All hazard and potential hazard trees near roads and ski trails would be removed and salvaged. Most ponderosa pine and Douglas-fir less than 20 inches DBH would be removed from within and around aspen clones to reduce competition and promote sprouting. Stands that were not previously thinned in the Boise Ridge TSI project would also be treated with a non-commercial thinning. These proposed activities could occur within RCAs as described below.

Pile and Understory Burning

Following the mechanical treatments described above, concentrations of slash would be piled and burned on approximately 799 acres, mostly in the higher elevation (PVG 3 and 4) stands proposed for hazard tree or sanitation salvage treatments. Typically, piles are burned in the fall and winter with snow on the ground to reduce the risk of spread. All slash <6 inches in diameter would be piled and burned. Larger material would be limbed and left on the ground to maintain a coarse woody debris component. Jackpot burning would occur on approximately 248 acres within open PVG 3 and 4 stands proposed for hazard tree removal or sanitation/salvage treatments. These areas likely won't have

enough slash following treatments to justify piling, but there are scattered jackpots of existing natural slash which would be increased by mechanical treatments.

Approximately 1,781 acres of understory broadcast burning would occur in PVG 1, 2 and 3 stands on the west and east sides of the project area to reduce activity and natural fuels and raise crown base heights.

Treatments in Riparian Conservation Areas

Option 2 in the Forest Plan (USDA Forest Service 2010a, Appendix B, p. B-34) would be used to define RCAs. The width of the RCA for perennial streams would be equal to the length of 2 site-potential tree heights. One site-potential tree height would be either 110 or 120 feet, depending on the PVG. Proposed activities could occur within RCAs, with some limitations. Within the first 50 feet of perennial streams, only felling of hazard trees would occur. Slash would be lopped and scattered and boles would be left on the ground. From 50 feet to the distance of one site-potential tree height, felling of hazard trees, noncommercial thinning, and piling/burning of slash could occur with no product removal. Within the second site potential tree height buffer, commercial and noncommercial thinning, sanitation salvage, and/or hazard tree felling could occur with product removal. However, ground-based equipment would be restricted to existing roads. Within the RCA of perennial streams, prescribed understory burning could occur using a backing fire only. Along intermittent streams, no treatment would occur within 15 feet of the stream except for felling of hazard trees. Slash would be lopped and scattered and the bole would be left on the ground. From 15 feet to the outer edge of the first site-potential tree height buffer, noncommercial thinning and piling and burning of slash with no product removal could occur. Beyond the first site-potential tree height buffer, thinning, sanitation salvage, and hazard tree felling could occur with product removal.

Tree Planting

Approximately 496 acres of planting of ponderosa pine, Douglas-fir, and lodgepole pine would occur following the sanitation/salvage and hazard treatments primarily between and adjacent to the ski runs where dwarf mistletoe infection is severe or to augment natural regeneration in areas lacking seed trees. Trees would be planted in widely spaced clumps of 15–40 trees each, allowing openings for skier passage between ski runs. Planting sites would be selected to provide shade and protection to seedlings. Douglas-fir would be planted in areas where low-to-no dwarf-mistletoe infection is present within the residual overstory and surrounding trees. Lodgepole pine would be planted in small openings up to 3 acres each on north aspects at higher elevations. Planting densities of lodgepole pine would be 250–300 trees per acre with variable spacing. Ponderosa pine would be planted on southerly aspects or lower elevations within Douglas-fir dominated stands. Plantations would be monitored for tree survival, vigor, and damages. Future plantings may occur on a 5- to 10-year interval. Minimum stocking levels defined in Forest Plan Standard VEST01 would not necessarily apply because recreation is the primary management objective of the area. A certified silviculturist would establish a minimum stocking appropriate for the site-specific conditions and management objectives. The long-term objective within most of the PVG 3 and 4 stands is to

eventually re-establish Douglas-fir as the dominant tree species, either through natural regeneration or future planting within and between the lodgepole and ponderosa pine clumps. At lower elevations and on southerly aspects, ponderosa pine may persist as the long-term dominant species.

Protections of Planted and Naturally Regenerated Trees

The Forest would work closely with management at Bogus Basin Mountain Resort to protect planted and naturally occurring small trees from skier, boarder, and equipment damage during the ski season. Protection measures could include any or all of the following: installing seasonal or permanent barriers/fences; using existing barriers such as dense brush, rocks, stumps or larger trees; closing certain areas to "off run skiing;" and installing information signage. Closed and fenced areas would be limited to a portion (probably less than 1/3) of the areas between and adjacent to ski runs during any single year. For example, during the first 2 to 3 years following planting, protection would not likely be necessary because the average seedling height would be below the minimum snow level to safely ski in the trees. After the trees grow to the height where they are susceptible to damage until they are at least 3 or 4 feet above the maximum snow depth, protection would be needed. Protection could be needed from 5 to 10 years. When the majority of the trees within a fenced or closed area no longer need protection, that area could be opened to skiing, and other areas could be planted and protected. Protection of seedlings adjacent to Nordic trails would probably not be necessary as the risk of damage would be low.

Transportation

Approximately 4.7 miles of temporary roads would be constructed, mostly on existing roadbed prisms, to implement the commercial component of the proposed treatments. Approximately 3.7 miles would be rehabilitated within 3 years of completion of treatments; 1.0 mile will be restored to a nonmotorized trail following completion of treatments.

Approximately 5.3 miles of existing maintenance roads (3.5 miles on NFS lands and 1.8 miles on private land) within the Bogus Basin permit area used by the permittee to access lifts and other facilities and maintain ski runs, would also be used for vegetation treatments. Since these roads are authorized under the special use permit, they would not be obliterated following use to implement the proposed activities. Adding these permitted roads to the NFS will not be addressed in the Project.

Road maintenance activities would occur on approximately 23 miles of existing roads to facilitate commercial timber harvest. The exact miles of road maintenance activities will be calculated once the haul route has been selected. Road maintenance activities include, but are not limited to, road prism blading, spot aggregate placement, drainage improvements, roadway clearing, and roadway ditch/culvert inlet cleaning. Some short realignments of existing roads may also be needed to reduce steep grades. An unsafe and failing log culvert on NFS road 274 where it crosses Bogus Creek would be replaced with a 42-inch corrugated metal pipe. Current public motorized access would not be changed for this project.

Proposed Haul Routes

The proposed haul routes for vegetation removal could include any or all of the following:

- NFS road 374 north to Harris Creek Road (NFS road 307) to Horseshoe Bend
- NFS road 297 to the Bogus Basin Road to Boise
- NFS road 366 (Pine Creek Road) to NFS road 364 (Grimes Creek Road) to State Highway 21

National Forest System Road 374 to Harris Creek Road (National Forest System Road 307) to Horseshoe Bend

Material in the west and central portion of the Project area could be hauled north to Harris Creek Road (NFS road 307) to Horseshoe Bend. This route would likely require more extensive pre-haul, during haul, and post-haul road maintenance in order to create and maintain a safe haul route.

National Forest System Road 297 to Bogus Basin Road to Boise

Material in the west and central portion of the Project area could alternately be hauled down Bogus Basin Road and enter the interstate or State highway system via any of the following routes:

- Downtown Boise (Harrison Boulevard to Interstate 184)
- North and west Boise (Hill Road to State Highway 55)
- Through the foothills and Hidden Springs (Cartwright and Dry Creek Roads to State Highway 55)

Using these haul routes would minimize the miles of gravel road maintenance, thus reducing total road maintenance costs for this Project.

National Forest System Road 366 (Pine Creek Road) to National Forest System Road 364 (Grimes Creek Road) to State Highway 21

Material in the east end of the project area must be hauled out through this route because of the current road configuration.

Installation of Public Education Signs

The Forest Service would work with the Bogus Basin Resort to install educational signs regarding forest health and resilience in the Frontier Lodge, other lodges, and trailhead kiosks. Existing panels contain information about water and wildlife, but no information exists regarding vegetation, fuels, and forest health.

Additional Information on Project Activities

Use of Adaptive Management

Controlling dwarf mistletoe and promoting forest health is a long-term, continuous process. Treatments would need to be implemented in a certain order and in stages. Some

treatments may need to be repeated every 5 to 10 years, such as removing dwarf mistletoe–infected trees and beetle-killed hazard trees. Planted trees would be monitored for survival, health and damage. Areas with low survival rates may be replanted. Whether the same species and elevational range would be replanted would depend on the suspected cause of mortality. If more than 20% of the surviving trees show signs of skier/boarder-caused damage, additional measures would be implemented to protect the trees.

Timing of Treatments

Most mechanical treatments and commercial harvests would occur from late June through October, depending on ground conditions and timing restrictions related to wildlife. Treatments could potentially start in fall 2016 or summer 2017. All mechanical treatments could be included in an Integrated Resource Stewardship Contract or could be implemented with separate service and timber sale contracts. First priority for treatments would be hazard tree felling and sanitation salvage harvest. Some areas proposed for commercial thinning could be combined with approved thinning units being analyzed in the Clear and Robie Creeks Project and included in future contracts, which would improve the economics of treating small, isolated stands, especially on the east side of the project area.

Vegetation Management Plan Development for the Permit Area

The long-term objective for the Bogus Basin Resort is to develop a vegetation management plan. Though not included in this project, the actions proposed for this project would not preclude options to be considered in this plan development.

Design Features

Wildlife

WL-1—Retain all snags ≥20 inches DBH. Where large snags (≥20 inches DBH) are not available, retain additional snags ≥10 inches DBH to meet the desired range as identified in the Forest Plan (USDA Forest Service 2010a, Appendix A, Table A-6) unless they pose safety hazards and must be felled. Where snags have been determined to be a safety hazard (e.g., timber sale OSHA requirements, roadside hazard trees) and must be felled, live trees of sufficient diameter shall be left to provide for recruitment of future snags and coarse woody debris as needed to achieve desired conditions. Retain felled snags onsite, where possible, to provide for the coarse woody debris component. For vegetation treatment activities, hazard trees will be identified using standardized protocols (e.g., Johnson 1981 or Angwin et al. 2012).

WL-2—Provide snags, snag replacement trees, and coarse woody debris, including those with broken tops, cavities, lightning scars, and dead portions, in clusters if available rather than uniformly spaced. Priority should be given to large snags and trees for snag recruitment over smaller diameter snags and trees.

WL-3—Protect known active nesting sites of sensitive species during implementation to prevent disrupting reproductive success (TEST12 and WIST03). Known nesting trees

shall be retained if possible and specific marking guidelines applied in the immediate vicinity of the nest.

WL-4—Protect any additional nesting sites of sensitive species that may be discovered during implementation to prevent disrupting reproductive success.

WL-5—Restrict public motorized use on temporary roads and closed NFS roads (ML1) that are reopened during project implementation to minimize impacts to wildlife and habitat. These roads would not be put on the MVUM and shall be signed on the ground as "Road Closed". When activities are completed, temporary roads shall be decommissioned to pre-project condition.

> Design features WL-6 through WL-10 apply to areas outside of developed recreational facilities and travel/utility corridors. Developed recreational areas are defined as between and adjacent to downhill and Nordic ski trails, campgrounds, picnic areas, trail heads, parking lots, structures, and towers and other facilities and within one site-potential tree height of hiking/biking trails, roads and utility corridors. Where possible, these design features would be used but risks associated with public safety would nullify design features except for those restricting the timing of activities during the nesting/denning period.

WL-6—Include appropriate provisions in all contracts during project implementation to provide protective measures for known Threatened, Endangered, Proposed, Candidate, and Region 4 Sensitive (TEPC/S) species and habitats. The District Wildlife Biologist will be notified if any new denning, nesting, and roosting sites are discovered during layout and implementation to determine the need for additional mitigation measures. The Wildlife Biologist, contract representative, and other appropriate resource representatives (e.g., silviculture, fuels, timber) will coordinate any needed modifications to prescribed treatments or activities to maintain key features of nesting/denning habitat or to avoid disrupting nesting/denning activities.

WL-7—Retain all trees and snags with evidence of cavities or large stick nests. Notify the District Wildlife Biologist if any large stick nests are discovered during project layout and implementation. The District Wildlife Biologist will determine the need for protective measures depending on species and occupancy status. Protective measures may include timing restrictions, no-treatment buffers, or modifications to prescriptions. Beyond TEPC/S species previously identified, other species that this design feature would apply to include osprey, red-tailed hawk, Cooper's hawk, sharp-shinned hawk, great horned owl, long eared owl, or other similar raptor species.

WL-8—Specific TEPC/S nesting/denning sites discovered through the implementation of this project will be monitored annually (throughout the lifespan of the project) by the Wildlife Biologist or other qualified personnel to determine whether the sites are occupied and which protection measures are applicable (WIST02 and WIST03).

WL-9—Restrict vegetation treatment within a 650-foot radius of any newly discovered active goshawk nest tree to retain vegetative structure around the nest site. In addition, since goshawks commonly move to alternate nest sites within a territory, the nest site location would be re-identified annually (WIST03 and WIST05).

WL-10—Implement the following timing restrictions for vegetation management treatments to address risk of disturbance effects to flammulated owls and white-headed woodpeckers: no commercial harvest, noncommercial thinning, or roadwork activities will occur within a 500-foot buffer around suspected active flammulated owl nest snags from May 1 to August 15 and around suspected white-headed woodpecker nests from March 1 to July 1 to avoid disrupting nesting activities (WIST02 and WIST03) and no commercial harvest, noncommercial thinning, or roadwork activities will occur within a 500-foot buffer around suspected active flammulated owl nest snags from May 1 to August 15 to avoid disrupting nesting activities (WIST02 and WIST03).

WL-11—Where they pose no threat to public safety, sufficient snags will be retained to meet Forest Plan desired conditions for snag densities listed in Table A-6 or Table E-2 (USDA Forest Service 2010a). Snags will be identified by a Wildlife Biologist and be of sufficient distance within timber stringers they would not present threats to public safety.

Botany

BT-1—Establish a Plant Conservation Area (PCA) to protect a Sacajawea bitter root (*Lewisia sacajaweana*) population located in the vicinity of Doe Point within the project area. The PCA will consist of concentric rings of increasing levels of protection.

Timber

TH-1—Retain all existing forested stands that meet the definition of large tree size class (USDA Forest Service 2010a, Appendix A) or old forest habitat (USDA Forest Service 2010a, Appendix E).

Management actions may occur within these stands as long as they continue to meet the definitions of large tree size class and old forest habitat. This design feature will not apply where it is inconsistent with management activities needed to reasonably address human health and safety concerns or to meet hazardous fuel reduction objectives within wildland-urban interfaces (WUIs). However, where this design feature is consistent with both considerations (large tree size class and old forest habitat and safety concerns and hazardous fuel reduction objectives), it will be applied.

TH-2—Designate for retention during sale preparation, all ponderosa pine trees meeting the definition of a legacy tree consistent with the Forest's *Legacy Tree Guide* (USDA Forest Service 2012).

This design feature will not apply where it is inconsistent with management activities needed to reasonably address human health and safety concerns or to meet hazardous fuel reduction objectives within WUIs. However, where this design feature is consistent with both considerations (large tree size class and old forest habitat and safety concerns and hazardous fuel reduction objectives), it will be applied.

TH-3—Prohibit log haul on weekends (all day Saturday and Sunday); all major holidays (Memorial Day, Independence Day, Labor Day and Thanksgiving); and the opening day of deer, elk, and turkey general hunting seasons (see RR-11).

TH-4—Post warning and/or closure signs on authorized haul routes and adjacent to active logging operations to inform the public of logging operations and truck traffic hazards.

TH-5—Yard trees whole to the landing and manufacture them at the landing from tractor/jammer units to reduce compaction and aid in soil amelioration. Upon completion of project activities, reclaim all newly constructed skid trails and existing unauthorized routes used to implement project activities by blocking access at all access points; recontouring the slope, placing earthen barriers, and/or placing barriers such as rock or coarse woody debris; scarifying or ripping to a depth of 12 inches; scattering slash over scarified/ripped surface to achieve at least 30% coverage of the surface; and revegetating with certified weed free grasses, shrubs, and/or trees. Any material used for revegetation activities will meet requirements of Design Feature NX-4.

Road Management

RM-1—Build all temporary roads to implement vegetation management activities; public motorized access will be restricted during activity implementation. Decommission temporary roads by full obliteration within 3 years of project completion.

Soil, Water, and Fisheries

SW-1—Allow commercial thinning within RCAs, with no commercial thinning within one potential tree height of stream channels, ponds, lakes, reservoirs, or wetlands. Keep mechanical equipment out of RCAs.

SW-2—Allow thinning of noncommercial trees within RCAs, except within 30 feet of perennial and intermittent streams, ponds, lakes, reservoirs, and wetlands. Trees felled within RCAs will be left onsite unless determined to not be necessary for achieving soil, water, riparian, and aquatic desired conditions. Felled trees or snags left in RCAs shall be left intact unless resource protection (e.g., risk of insect infestation) or public safety requires bucking them into smaller pieces.

SW-3—Store no fuel in RCAs. Refueling or servicing of vehicles or equipment will not occur within RCAs unless no other alternative is available. In the event no acceptable alternative site for these activities is available, refueling or servicing sites must be approved by an Engineering Representative/Timber Sale Contract Administrator in consultation with the District Hydrologist and/or Fish Biologist. All equipment shall be in good repair and free of leakage of lubricants, fuels, coolants, and hydraulic fluid.

SW-4—Design all log landings to be located outside of RCAs. Consult the District Hydrologist or Fish Biologist and the Forest Archeologist if site-specific circumstances necessitate a log landing to be located within an RCA. For log landings located within an RCA, erosion control devices, such as erosion cloth, straw waddles, silt fences, and/or certified weed-seed-free straw bales, will be installed between the landing and the stream to prevent sediment delivery. The District Hydrologist or Fisheries Biologist will assist the Timber Sale Contract Administrator in determining the most effective sediment control method. Soil erosion control measures will be allowed to deteriorate in place. All log landings located within RCAs will be returned to pre-disturbance condition and replanted with appropriate vegetation.

Recreation and Scenic Resources

RR-1—To meet Forest Plan visual quality objectives of retention (SCST01 and Scenic Environment Standard 0461), the following will be done within the immediate foreground (300 feet) of Bogus Basin Resort facilities and ski runs, NFS road 297, Shafer Butte Recreation Site, and Bogus Basin Nordic trail:

- Cut stumps to 12 inches or less on the uphill side to reduce visibility (SCGU03)
- Lop and scatter slash below 24 inches (less if visually intrusive). Remove material in excess to other resource needs or pile and burn within one field season (SCGU04).
- Spread remaining slash after project completion so that it appears to be naturally occurring downed material (SCGU04)
- Intersect temporary roads and skid trails with roads, trails, and areas at a right angle and, where practicable, curve after the junction to minimize the length of route seen from the road, trail, or recreation area
- Blend temporary roads and skid trails into the characteristic landscape of the surrounding area; create cut and fill banks to be sloped to accommodate natural revegetation and to reduce sharp contrasts (SCGO01)

RR-2—To meet Forest Plan visual quality objectives of partial retention (SCST01 and Scenic Environment Standard 0461), the following will be done within the middle ground and background (>300 feet) of Bogus Basin Resort facilities and ski runs, NFS road 297, Shafer Butte Recreation Site, and Bogus Basin Nordic trail and the foreground of NFS road 374:

- Ensure that forest stand composition changes are textural, with small, natural openings; avoid straight lines and right angles; and ensure that openings resemble the form, line, and texture of those found in the surrounding natural landscape with edges feathered to avoid a shadowing effect (SCGO01, VEST02, SCGU05)
- Design skyline corridors for skyline yarding without linear edges by utilizing existing openings and clearing the vegetation to promote meandering edges (SCGO01, VEST02, SCGU05)
- Blend temporary roads and skid trails into the characteristic landscape of the surrounding area; create cut and fill banks to be sloped to accommodate natural revegetation and to reduce sharp contrasts (SCGO01)
- Where possible, selectively remove trees over time and plant new trees (SCGU02) on upper ridgelines (SCGU06) and peaks. Pay particularly attention to trees within 1,000 feet of existing infrastructure, such as buildings, ski lifts, and communication towers and facilities that offer screening and textural blending. Coordinate with owners of these facilities to ensure trees are planted in appropriate locations and do not interrupt facility/infrastructure function and maintain visual screening and vertical elements (SCGO01, VEST02).

RR-3—Time activities to avoid ski season and major Bogus Basin Resort summer events and major recreation dates (SCGO01, REOB14, REGU25). Timing will include the avoidance measures mentioned in Design Feature TH-3.

RR-4—Post signs along major trails, roads, and staging areas where operations are visible to the public, describing the purpose of the activities. Include web addresses for more detailed information (VEOB04).

RR-5—Selectively remove trees over time and plant new trees (SCGU02) around the event site used by Bogus Creek Outfitters for their chuck wagon dinner on NFS road 276 (SCGO01, VEST02)

RR-6—Adjacent to downhill ski runs, logs shall be bucked into pieces less than 6 feet long, de-limbed, and oriented parallel to the slope. Slash will be piled and burned, removed, or lopped and scattered at a height less than 24 inches. Logs and slash remaining within the ski runs will be removed to the maximum extent practicable.

RR-7—Identify Project area authorized trails in the timber sale contract. For the authorized trails that fall within or immediately adjacent to harvest/thinning units, include specific contract provisions to protect National Forest improvements, maintain access or use, and address public safety to protect or minimize impacts to trail surfaces, trail heads, trail access, and recreational opportunities. The Sale Administrator shall designate all skid trails crossing designated trails and shall consult with recreation staff on appropriate repair or reconstruction needs to return the trail to its preexisting condition. Damage to or loss of NFS trail facilities, such as trail head features, trail/stream crossings, and trail markers, from Project activities will be repaired or replaced by the appropriate party (REGU22, USDA Forest Service 2010a, p. III-68 and FSH 2309.11 and FSH 7720, sections 102 and 103).

RR-8—A closure order will be issued for public safety when logging operations are occurring within unit area

RR-9—Thinning treatments will be designed to provide shade for snow retention and visual quality objectives adjacent to designated Nordic ski trails. Specifically, no trees will be cut within a variable 15- to 30-foot-wide buffer on the southeast-to-west sides of trails. No more than 30% of the canopy cover will be removed from a variable 15- to 30-foot-wide buffer on the northwest-to-east sides of Nordic ski trails.

RR-10—Prohibit snow plowing on established groomed Nordic ski trails within the Project area and on all haul routes from November 30 to April 15.

RR-11—All logging operations, including hauling, will cease by November 30 and not commence prior to April 15 in areas with winter recreation facilities/trails to allow for winter trail use by skiers and snowmobilers.

RR-13—Trees will be directionally felled away from NFS trails where possible. Any stumps within 36 inches from the edge of the tread of the trail will be flush cut to meet NFS trail standards.

RR-14—Appropriate barriers and signs shall be installed on non-motorized trails according to the Sign and Poster Guidelines for the Forest Service (EM 7100-15) and Vehicle Barriers: Their Use and Planning Considerations (USDA Forest Service 2006). Signs would indicate “bike or foot travel welcome, no motorized vehicles allowed during winter seasons” when NFS roads are converted to non-motorized trail routes. Trenches or tank traps would not be utilized to restrict motor vehicles use on authorized nonmotorized routes.

Cultural Resources

CR-1—Two historic properties, both historic structures or structure complexes, have been identified within the project area. These properties will be subjected to site-specific prescriptive easements developed by the Forest and in consultation with the Idaho State Historic Preservation Officer (SHPO).

CR-2—If human remains or previously unidentified cultural resources are identified during project activities, work will cease at that location and the Forest Heritage Specialist will be contacted immediately.

Fire and Fuels

FF-1—No fire line and/or hand line will be constructed within RCAs

FF-2—Hazardous material utilized for burning activities will be stored away from RCAs

FF-3—Public notification in the form of newspaper articles and notices or personal contacts to residents will be posted in the surrounding areas, prior to implementing any prescribed burn activities, especially if fall burning is conducted when hunters and woodcutters may be present in or near the project area

FF-4—Warning signs will be posted on primary routes accessing the area(s) being burned to alert drivers of the potential for reduced visibility from smoke

FF-5— A burn plan will be developed according to the *Interagency Prescribed Fire Planning and Implementation Procedures Guide* (National Wildfire Coordinating Group 2014), and Forest Service Manual 5140 direction, to address prescribed fire mitigations for air quality, contingency, safety, and environmental effects (fire behavior). Integrate requirements of the Montana/Idaho Airshed Group and those found in the Forest Plan (USDA Forest Service 2010a). Ensure the burn plan specifies that weather parameters that affect fire behavior need to be within a desired range.

FF-6—Burning activities will be restricted to early spring or fall to avoid nesting periods for ground-nesting birds; consult the Wildlife Biologist during development of the burn plan

FF-7—Burn piles will not be burned or actively ignited within RCAs

FF-8—Landing slash piles will be created from harvest activities to be available for biomass utilization and/or firewood collection opportunities for the public. Burn material will be left onsite in the future.

Air Quality

AQ-1—Identify coordination needs with other federal, State, and local governments and identify public notification opportunities in potentially affected areas through the burn plan.

Range

RG-1—Notify the District Range Management Specialist of the timing of project activities, including timber harvest, prescribed fire, precommercial thinning, and road activities. Inform permittee(s), through the allotment annual operating instructions, of

pending project activities to minimize the potential for conflicts and allow for short-term modification of grazing practices where necessary.

These modifications will be coordinated with the Hydrologist, Fish Biologist, and Soil Scientist to ensure compliance with the Forest Plan Rangeland Resource direction.

Noxious Weeds

NX-1—Clean to remove all visible plant parts, dirt, and material that may carry noxious weed seeds from all equipment and vehicles prior to entry into the project area (NPST03; USDA Forest Service 2010a, p. III-38). Staging of equipment and/or rehabilitation materials will not be allowed in known infestation sites.

NX-2—Allow only certified weed-free hay, straw, or feed on NFS lands (NPST01; USDA Forest Service 2010a, p. III-38).

NX-3—Contract Administrators shall report noxious weed populations in the project area to the District Weed Specialist for inclusion in noxious weed treatment plans.

NX-4—Seed mixes and/or plant materials used during restoration and soil erosion prevention activities will be comprised of certified weed-free native or desirable non-native seed mixes and/or native cultivars, as recommended by the Forest or District Botanist.

Environmental Issues

The following potential issues were identified through consultation with Forest Service resource specialists and from issues identified from similar past projects:

- Effects to watershed, and other forest resources
- Effects to wildlife and potential disruption of wildlife habitats
- Effects to rare plant species and potential habitat
- Effects to recreational opportunities
- Effects to the public along haul routes

Decisions to Be Made

The District Ranger for the Mountain Home Ranger District is the deciding official for this proposal. The following decisions will be made:

- Whether or not to conduct sanitation salvage, commercial/noncommercial thinning, or hazard tree felling treatments and prescribed burning on 2,827 acres.
- If the area is treated, what stipulations to implementation would be required?

References

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